Claims

1. through 31 and 33-50. (canceled)

32. (currently amended) A method for measuring cross-coupling capacitance, comprising:

providing at least first and second wires;

charging the first wire to a predetermined voltage;

performing a first measurement associated with a capacitance of the first wire;

charging the second wire to the predetermined voltage;

recharging the first wire to the predetermined voltage;

performing a second measurement associated with a capacitance of the first wire; and

calculating a difference between the first and second measurements to determine the cross-coupling capacitance between the first and second wires;

coupling a first transistor between a supply voltage and a common node, coupling a second transistor in series with the first transistor between the common node and ground, wherein the first wire is coupled to the common node;

applying a first periodic signal to a gate of the first transistor and a second periodic signal to a gate of the second transistor, to periodically charge and discharge the first wire; and

~~The method of claim 17,~~

further including:

a) grounding the second wire for a first period of time;

b) during the first period of time, applying the first periodic signal to the gate of the first transistor and the second periodic signal to the gate of the second transistor to charge and discharge the first wire, wherein the first and second transistors are not activated simultaneously;

c) repeatedly performing the first measurement during the first period of time and averaging a result of the first measurement;

d) wherein the charging of the second wire occurs for a second period of time;

e) during the second period of time, applying the first periodic signal to the gate of the first transistor and the second periodic signal to the gate of the second transistor to charge and discharge the first wire, wherein the first and second transistors are not activated simultaneously;

f) repeatedly performing the second measurement during the second period of time and averaging a result of the second measurement; and

g) wherein calculating the difference between the first and second measurements includes taking the difference between the averaged results of the first and second measurements.

51. (allowed) A method for determining cross-coupling capacitance, comprising:

applying a first periodic signal to a gate of a first transistor coupled between a supply voltage and a common node;

applying a second periodic signal to a gate of a second transistor coupled between the common node and ground;

using the first and second periodic signals, charging and discharging a first wire coupled to the common node for a period of time;

applying a third periodic signal to charge and discharge a second wire that is in cross-coupling relationship with the first wire;

measuring a first charge that is deposited on the first wire over the period of time, the first charge being measured each time the second wire is grounded;

measuring a second charge that is deposited on the first wire over the period of time, the second charge being measured each time the second wire is charged to the supply voltage; and

calculating a difference between the first and second charge to determine the cross-coupling capacitance.

52. (allowed) The method of claim 51, wherein a single ammeter is used to calculate the cross-coupling capacitance by taking more than one measurement of current through the first wire, the more than one measurement of current comprising at least a measurement of current through the first wire while the first and second wires are both charged to a predetermined voltage, and a measurement of current through the first wire while the first wire charged to a predetermined voltage and the second wire is held to ground.

53. (allowed) The method of claim 51, further including measuring each of the cross-coupling capacitances for multiple neighbor wires to the first wire.

54. (allowed) The method of claim 51, wherein measuring the cross-coupling capacitance for the neighbor wires is performed using a same technique as used to measure the cross-coupling capacitance between the first wire and the second wire and using the same transistor configuration.

55. (allowed) The method of claim 51, wherein the multiple neighbor wires are in an integrated circuit with multiple metal layers and the neighbor wires can be on any of the metal layers and in any orientation relative to each other and to the first wire.

56. (allowed) The method of claim 51, wherein the third periodic signal is applied to an inverter that charges and discharges the second wire, and only the first, second and third periodic signals are used to determine cross-coupling capacitance.

57. (allowed) The method of claim 51, wherein a timing of the periodic signals is such that the first and second transistors are not activated simultaneously.